

Application No. 10/524,769
Amendment dated November 30, 2007
Reply to Office Action of July 31, 2007

Docket No.: 3560-0142PUS1

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-31 are currently being prosecuted. The Examiner is respectfully to reconsider his rejections in view of the amendments and remarks as set forth below.

Claim Objections

The Examiner objected to claim 8 due to an improper use of a capital letter. By way of the present amendment, this has now been corrected.

Rejection under 35 USC § 112

Claims 3, 10-16, 18 and 20-31 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. This rejection is respectfully traversed. In each case, Applicants have amended the claims to avoid the problems noted by the Examiner.

In regard to claim 3, Applicants have amended the claim to now refer to the reflected light which is removed before the analysis. This specification indicates on page 4, lines 26-32, as well as at other places that the projected light is absorbed and emitted by thermal emission from the surface. Also, some of the original projected light is reflected. Since the analysis is only performed on the light due to thermal emission, the reflected light must be removed. This has been made clear by way amended language of claim 3.

In regard to claim 10, Applicants have amended the language to make it clear that the flashing of the image is used to synchronise the received units. Accordingly, Applicants submit that this problem is overcome.

In regard to claim 11, Applicants have changed "references" to "structures". This is clearly seen in the paragraph bridging pages 5 and 6 in the specification. The Examiner also indicated a lack of antecedent basis for "the surface" in line 2. Applicants do not understand this rejection since antecedent basis is found in claim 1, lines 1, 2, 4, 6, 7, 8, 9 and 10.

Application No. 10/524,769
Amendment dated November 30, 2007
Reply to Office Action of July 31, 2007

Docket No.: 3560-0142PUS1

In regards to claim 14 and 20, the numeral 5 has been removed. In regard to claim 18, Applicants have utilized the term "sinusoidal" to state a definite shape. In view of the above, Applicants submit that the rejection under 35 U.S.C. 112 have been overcome.

Rejection under 35 USC § 102

Claims 1, 2, 4-10 and 17-19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US Patent 6,024,449). This rejection is respectfully traversed.

The Examiner states that Smith shows a method for performing measurements of a topography of a surface of an eye where the image is projected onto the surface using a projection means 1 where a fraction of the light is received using one or more receiving units and where the topography is determined by analysis of the fraction of the light leaving the surface.

Applicants submit that claim 1 is not anticipated by Smith. In the present invention, the projected light includes light to be reflected and the remainder is absorbed, causing light radiated from the surface due to thermal emission. The Smith reference does not show this thermal emission light. Instead, the Smith reference separates the specular reflected light from the diffuse light based on a polarization technique. Thus, it does not in any manner teach light radiated by thermal emission. Claim 1 specifically describes that the fraction of light received by the cameras is light radiated by the surface through thermal emission. Also, the analysis for determining the topography of the surface is performed on the light radiated by the surface due to thermal emission. These statements are found in the final four lines of claim 1. Applicants submit that Smith does not teach this feature and accordingly claim 1 is allowable thereover.

Claims 2-19 depend from claim 1 and as such are also considered to be allowable. In addition each of these claims recite other features that make them additionally allowable. Thus, claims 8-10 relate to the synchronization feature while claims 11-13 discuss the detection of structures on or beneath the surface. Claim 14 discusses the use of near-IR. Claim 14, 17, 10 and 19 discuss the use of patterns. Accordingly, these claims are additionally allowable.

Application No. 10/524,769
Amendment dated November 30, 2007
Reply to Office Action of July 31, 2007

Docket No.: 3560-0142PUSI

Claim 20 is an independent claim directed to an apparatus corresponding to method claim 1. This claim also describes the analysis being performed on the light radiated by the surface due to thermal emission. Accordingly, Applicants submit that claim 20 is allowable for similar reasons presented above in regard to claim 1. Claims 21-31 depend from claim 20 and as such are also considered to be allowable.

Applicants also wish to point out that Smith further describes an embodiment which uses a quantum well infrared photo detector for measuring hot spots. In this embodiment, a heat reflecting mirror reflects the infrared light through the photo detector while the laser light is transmitted to the CCD performing the topography process. However, the photo detector is used solely for determining regions of over temperature and is not used for the topography determination. The infra red fraction emitter by the surface is reflected by heat reflecting mirror to the photo detector and therefore is not received by the CCD. The radiation is split into an infra red fraction and a visible fraction where the visible fraction is used by the photo detector to perform temperature measurements and the visible fraction uses the diffuse part to perform surface topography measurements.

Applicants also note that the Examiner has not applied the Smith reference to claims 3, 10-17 and 20-31. Applicants agree with the Examiner that these claims define over this reference.

Conclusion

In view of the above remarks, it is believed that claims clearly distinguish over the patent relied on by Examiner. In view of this, reconsideration of the rejection and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Joe McKinney Muncy, Reg. No. 32,334 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No. 10/524,769
Amendment dated November 30, 2007
Reply to Office Action of July 31, 2007

Docket No.: 3560-0142PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.


Dated: November 30, 2007

Respectfully submitted,

By 

Joe McKinney Muncy

Registration No.: 32,334

 BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant